

ABSTRACT

In this oil pump, a pump cover 15 is connected to an end face of a pump body 10 having a hollow portion 11 on the end face so as to form a gear compartment therebetween. A driving gear 30 driven by a driving shaft 13 and a rotatable driven gear 31 meshing with the driving gear 30 are disposed in the gear compartment G. At positions corresponding to a discharge area of working spaces R formed by the engagement of these gears 30 and 31, a discharge port 25a adjacent to the body and a discharge port 25b adjacent to the cover are formed in the bottom of the hollow portion 11 of the pump body 10 and in the inner end face of the pump cover 15, respectively. A notch 26a adjacent to the body is formed in the bottom of the hollow portion 11 of the pump body 10, and extends from the front end of the discharge port 25a adjacent to the body to the rear end of the discharge area of the working spaces R. A notch 26b adjacent to the cover is formed in the inner end face of the pump cover 15, and extends from the front end of the discharge port 25b adjacent to the cover to the rear end of the discharge area of the working spaces R. One of the pump body 10 and the pump cover 15 is composed of cast iron, and the other is composed of a light alloy. The length of the notch 26a or 26b formed in the pump body 10 or the pump cover 15 composed

of the light alloy is made longer than that formed in the pump body 10 or the pump cover 15 composed of the cast iron such that bubbles generated in working oil in the working spaces R during the high-speed rotation of the driving gear 30 are crushed by the high-pressure working oil flowing back to the working spaces R through the longer notch adjacent to the inner surface of the pump body 10 or the pump cover 15 composed of the cast iron facing the working spaces R. In this oil pump, the driven gear 31 is preferably a rotatable internal gear having the outer circumference supported by the inner circumference of the gear compartment G, and the driving gear 30 is preferably an external gear meshing with the driven gear 31. Moreover, the notch 26a or 26b formed in the pump body 10 or the pump cover 15 composed of the light alloy preferably has an approximately triangular shape and a width decreasing toward a suction port 20b adjacent to the cover, and preferably has an inclined bottom so as to reduce the depth.